FCS GROUP
Solutions-Oriented Consulting

Memorandum

Date: November 14, 2011

To: Michele De Lilla, Senior Utilities Engineer, City of Edmonds

From: Nihat Dogan, Project Manager, FCS GROUP

RE: Water, Sewer, and Stormwater Utilities General Facilities Charge Update

1. OVERVIEW AND METHODOLOGY

General facilities charges (also known as connection charges, system development charges, or capital facilities charges) are legal sources of funding to support capital needs, as provided for by RCW 35.92.025. A GFC is a one-time charge imposed as a condition of a new connection to the utility system or for increasing the capacity of an existing connection (e.g., re-development). The purpose of the charge is to promote equity between new and existing customers and to provide a source of funding for capital projects.

Equity is served by providing a vehicle for new customers to share in the capital costs incurred to support their addition to the system. In the absence of a GFC, growth-related costs would be borne in large part by existing customers. In addition, the net investment in the utility already collected from existing customers, whether through rates, charges and /or assessments, would be diluted by the addition of new customers, effectively subsidizing new customers with prior customers' payments. To establish equity, a general facilities charge should recover a proportionate share of investment in the system from a new customer. From a financial perspective a new customer should become financially equivalent to an existing customer by paying the connection charge.

Revenues generated from connection charges can be used to fund capital projects or to pay debt service incurred to finance capital projects, but **cannot** be used to pay operating and maintenance costs.

There are several documented approaches to establish a connection charge that are legally defensible if designed properly. Within the range of legally defensible approaches, the choice of the costs the City targets is a matter of policy. It is important that the City follow a methodical and rational approach to consistently determine and implement cost-based connection charges. To that end, FCS GROUP, in concurrence with City staff, calculated general facilities charges using "*integrated*" or "*average cost"* method.

Under this method, new development pays an average share of existing and future facilities spread over the current and projected ratepayers that the system will serve. This approach assumes that existing and future customers are equal beneficiaries of both the current and future system and, therefore, existing and future customers should equally share the burden of financing all system facilities. Under this method, the connection charge is calculated by dividing the existing and future cost basis by the total system capacity to be served by the system. Most often, repair and replacement (R&R) projects are excluded from the future cost basis since R&R projects are typically funded through rates. If future R&R projects are included in the future cost basis, a provision for retirement of assets should also be incorporated to

ensure that new customers do not pay for the cost of the original asset as well as the replacement of the same asset.

It should be noted that these calculated charges represent our estimate of the ***maximum allowable*** general facilities charges. The City may choose as a matter of policy to implement a charge at any level up to the calculated charge. Revenues generated, as well as equity achieved, will vary depending upon whether or not the full charge is implemented.

It is also important to note that the calculated general facilities charges are expressed in terms of current dollars for future project costs. In other words, the calculated charges will only recover an equitable share of costs from new customers connecting to the system in the first year of implementation. A customer connecting in the following year should pay a charge that reflects the cumulative system investment at the time they connect. Relative to the calculated charges presented herein, this would include:

- Assets added to the system during 2012,
- An extra year of interest accrued for past capital costs incurred, and
- Updated costs for the capital improvement program and construction-work-in-progress.

Given these considerations, the calculated charges herein may not recover a fair share of costs from customers connecting in subsequent years. The City could potentially address this concern by building an appropriate provision for inflation to reflect an adjustment for planned net improvements into the general facilities charges.

Brief descriptions of the components that can be included in the general facilities charge are described below.

A. EXISTING COST BASIS

Legal interpretations of state statutes have provided guidelines for general facilities charges, which suggest that such charges should reflect the actual original cost of the utility system, and can include interest on that cost at the rate of interest applicable at the time of construction for up to a 10-year period, not to exceed 100 percent of the construction costs. This cost basis does not include donated facilities and non-utility cash payments, whether from grants, developers or through Local Improvement District assessments. Although not required by state law, outstanding debt principal (net of existing cash balances) is then subtracted from this cost basis to avoid double-charging in recognition that debt service is repaid through rates.

B. FUTURE COST BASIS

Legal interpretations also suggest that future facilities needed to serve growth, as well as to provide for regulatory system improvements can be included in the general facilities charge. The future cost basis can include utility capital projects planned for construction and identified in comprehensive system planning documents. Projects directly funded by developers or special property assessments are not included in the calculation. Replacement projects are most often excluded from the calculation unless needed to increase the size of the system or a provision for retirement of assets that would be replaced are provided for the existing cost basis, since the original cost of replacement projects is already included in the existing cost basis.

C. CUSTOMER BASE / SYSTEM CAPACITY

The sum of the existing cost basis and future cost basis is then divided by the total customer base to determine the maximum allowable general facilities charge. The customer base represents equivalent residential or service units that can be supported by the planned system capacity.

2. ASSUMPTIONS AND DATA

The calculation of updated charges relied on the following data sources and assumptions:

- Fixed asset detail information as of 2010 year-end was provided by the City's Finance Department
- Contributed, developer donated, or LID funded assets were identified by FCS GROUP and City staff collaboratively based on the asset descriptions in the detailed asset listings. Per contract between the City and the wholesale treatment customers (i.e. City of Mountlake Terrace, Olympic View Water and Sewer District, and Ronald Sewer District), 50.787%.of all assets related to the wastewater treatment plant is assumed to be funded by the sewer utility, the rest is assumed to be funded by wholesale customers.
- 2011 construction-work-in-progress (CWIP) provided by the City's Finance Department, and tied to the Engineering Department's 2011 capital program.
- Existing debt service payment schedules, outstanding debt principal balances, and 2011 year-end estimated cash balances were provided by the City's Finance Department.
- Capital Improvement Plans were provided by the City's Engineering Department.
- Per City staff's direction, it is assumed that the water utility's capital improvement program target for repair and replacement projects is to replace 1% of the utility's aging pipe infrastructure per year. Based on the 18-year capital improvement program, 18% of the pre-2000 transmission and distribution assets were assumed to be retired.
- The existing customer counts for the water and stormwater utilities are based on the utility billing system data and provided by City staff. The number of existing equivalent residential units (ERUs) for the sewer utility is based on the City's flow data at the wastewater treatment plant (WWTP), and provided by the WWTP operations staff.
- Based on the Water Utility Comprehensive Plan projections, average annual growth rate of the water utility's customer base is 0.5%. Per City staff direction, the sewer utility's customer base is assumed to grow at the same rate, while the stormwater utility's customer growth rate is assumed to be half of this rate (i.e. 0.25%).

3. RESULTS

Results of the general facilities charge analyses are summarized below. Further detail is provided in the technical spreadsheets included in the Appendix.

A. WATER UTILITY

As of year-end 2011, the original cost of the water utility system assets equaled $18.1 million. Approximately $1.1 million of these assets were contributed (or donated), and therefore excluded from

the calculation. Ten years of interest accumulation totaling $9.3 million was added to the cost basis. The utility had $4.2 million construction-work-in-progress in 2011. As explained above, a provision for retirement of pre-2000 transmission and distribution assets is provided, resulting in a deduction of $1.3 million of existing assets and $0.8 million reduction in calculated interest.

At the end of 2011, the utility is expected to have $1.2 million cash balances and will carry $1.5 million outstanding debt principal. Therefore the existing cost basis was reduced by $0.2 million outstanding debt principal net of cash balances. The remaining $28.1 million formed the existing cost basis for water GFC.

The City has planned for about $46.5 million (current day dollars) of capital projects between 2012 and 2029. Hence, the total cost basis (existing plus future) for the general facilities charge is $74.6 million.

Based on summary level customer data provided by City staff, the City had 10,164 water accounts and 20,928 meter capacity equivalents (MEs) as of October 2011. Excluding fire and sprinkler meters, total number of meter capacity equivalents was 13,436. Base on the projected average annual growth rate of 0.5%, the total number of meter capacity equivalents (MEs) is projected to reach 14,772 at the end of the analysis period (i.e. 2030).

The calculated GFC of $5,050 per ME is derived by dividing the total cost basis ($74.6 million) by the total customer base (14,772 MEs). The charge increases by meter size based on the American Water Works Association (AWWA) meter capacity ratios. A schedule of calculated charges by meter size is provided below:

Water Utility: Existing and Calculated GFCs

Meter Size	Meter Equivalency Factors	Calculated GFCs	Existing GFCs
3/4 "	1	$ 5,050	$ 908
1"	2.5	$ 12,624	$ 2,270
1 1/2"	5	$ 25,248	$ 4,540
2"	8	$ 40,397	$ 7,264
3"	16	$ 80,794	$ 14,528
4"	25	$ 126,240	$ 22,700
6"	50	$ 252,480	$ 45,400
8"	80	$ 403,968	$ 72,640

B. SEWER UTILITY

As of year-end 2011, the original cost of the sewer utility system assets equaled $60.7 million. Approximately $30.3 million of these assets were contributed (or donated), and therefore excluded from the calculation. Ten years of interest accumulation totaling $15.4 million was added to the cost basis. The utility had $1.3 million construction-work-in-progress in 2011. At the end of 2011, the utility is expected to have $5.6 million cash balances and will carry $3.7 million outstanding debt principal.

Since the outstanding debt principal is less than the existing cash reserves, no outstanding debt principal was deducted from the existing cost basis. The resulting existing cost basis totals $47.2 million.

The City has planned for about $14.1 million (current day dollars) of capital projects between 2012 and 2017. Approximately $2.2 million of this amount represent the City's share of wastewater treatment plant projects.

By adding the existing cost basis and future cost basis, the total cost basis of $61.3 million for the general facilities charge is calculated.

Based on wastewater treatment plant flow data provided by City staff, the City had 12,626 equivalent residential units (ERUs). Based on the projected average annual growth rate of 0.5%, the total number of ERUs is projected to reach 13,881 at the end of the analysis period (i.e. 2030).

The calculated GFC of $4,417 per ERU is derived by dividing the total cost basis ($61.3 million) by the total customer base (13,881 ERUs).

C. STORMWATER UTILITY

As of year-end 2011, the original cost of the stormwater utility system assets equaled $9.4 million. Approximately $2.9 million of these assets were contributed (or donated), and therefore excluded from the calculation. Ten years of interest accumulation totaling $1.1 million was added to the cost basis. The utility had $1.3 million construction-work-in-progress in 2011.

At the end of 2011, the utility is expected to have $0.6 million cash balances and will carry $2.4 million outstanding debt principal. Therefore, the existing cost basis was reduced by $1.8 million outstanding debt principal net of cash balances. The remaining $7.1 million formed the existing cost basis for stormwater GFC.

The City has planned for about $21.3 million (current day dollars) of capital projects between 2012 and 2017. Of this total, approximately $10.8 million is expected to be funded by grant money. The net utility funded capital improvement program is approximately $10.6 million.

Hence, the total cost basis (existing plus future) for the general facilities charge is $17.7 million.

Based on summary level customer data provided by City staff, the City had 21,124 stormwater equivalent service units (ESUs) as of October 2011. Based on the projected average annual growth rate of 0.25% (per City staff), the total number of ESUs is projected to reach 22,150 at the end of the analysis period (i.e. 2030).

The calculated GFC of $799 per ESU is derived by dividing the total cost basis ($17.7 million) by the total customer base (22,150 ESUs).